

Totem-Pole Power Control for Processors

Abstract

The same totem-pole switch configuration that is used for a data bus driver is suitable for switched-current power control on a processor. The switched-charge power converter has very fast dynamic response for changes in current, from no load to full load and back again in the time that it takes to turn a MOSFET on, then off again. For a number of reasons, the preferred location for the power control circuitry is on the processor die itself, or as close to it as possible. Switched-charge circuitry may be added, for very fast and accurate step changes in voltage.